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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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7590

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EXAMINER

NGUYEN, LINH V

ART UNIT

PAPER NUMBER

2819

DATE MAILED: 11/06/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

09/941,187

Applicant(s)

KIRN, LARRY

Examiner

Linh V. Nguyen

Art Unit

2819

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 12/03/01.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-6 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-6 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 8/28/01 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

**Priority under 35 U.S.C. §§ 119 and 120**

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☒ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 4.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other:

## **DETAILED ACTION**

### ***Drawings***

This application has been filed with informal drawings, which are acceptable for examination purposes only. Formal drawings will be required when the application is allowed.

### ***Claim Rejections - 35 USC § 102***

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 1, 3, 4, and 6 are rejected under 35 U.S.C. 102(b) as being anticipated by Adrian et al. U.S. patent No. 5,617,058.

Regarding to claim 1, Fig. 8A Adrian et al. disclose In a switching amplifier of the type wherein one or more references are coupled to a load through gated switches controlled by a pulse-width modulated input signal (24), the improvement comprising: adding a minimum pulse width to some or all of the switching devices so as to null the common-mode output presented to the load (Col. 3 lines 21 – 27).

Regarding to claim 3, wherein minimum pulse width is added during the pulse-width modulation of the input signal (Fig. 8A, Col. 8 lines 2 – 20).

Regarding to claim 4, Fig. 8A, Adrian et al. disclose an enhanced performance switching amplifier coupling an input signal to a load, comprising: at least one electrically controlled switch coupled to each side of the load; and a waveform generator

(24) operative to perform the following functions: a) control the switches in accordance with the input signal, and b) adding a minimum pulse width to so as to null common-mode output presented to the load (Col. 3 lines 21 – 27).

Regarding to claim 6, wherein minimum pulse width is added by the pulse-width modulator (Fig. 8A, Col. 8 lines 2 – 20).

3. Claims 1, 3, 4, and 6 are rejected under 35 U.S.C. 102(b) as being anticipated by Chen et al. U.S. patent No. 5,099,408.

Regarding to claim 1, Fig. 5 Adrian et al. disclose In a switching amplifier of the type wherein one or more references are coupled to a load through gated switches (2) controlled by a pulse-width modulated input signal (22), the improvement comprising: adding a minimum pulse width to some or all of the switching devices so as to null the common-mode output presented to the load (Col. 3 lines 43 – 50, Also see Fig. 10 for minimum pulse width  $T_d$  adding or subtracting to voltage pulse of switches).

Regarding to claim 3, wherein minimum pulse width is added during the pulse-width modulation of the input signal (Fig. 5 [22]).

Regarding to claim 4, Fig. 8A, Adrian et al. disclose an enhanced performance switching amplifier coupling an input signal to a load, comprising: at least one electrically controlled switch coupled to each side of the load; and a waveform generator (22) operative to perform the following functions: a) control the switches in accordance with the input signal, and b) adding a minimum pulse width to so as to null common-mode output presented to the load (Col. 3 lines 43 – 50, Also see Fig. 10 for minimum pulse width  $T_d$  adding or subtracting to voltage pulse of switches).

Regarding to claim 6, wherein minimum pulse width is added by the pulse-width modulator (Fig. 5 [22]).

***Claim Rejections - 35 USC § 103***

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 2 and 5 rejected under 35 U.S.C. 103(a) as being unpatentable over Adrian et al. in view of Applicant's Admitted Prior Art (AAPA).

Adrian et al. as applied to claim 1 – 4 above disclose every aspect of applicant's claimed invention except for wherein the switches are arranged as differential pairs on either side of the load. However that technique is a well-known and conventional art, as Fig. 1 Prior Art of applicant application has indicated. Therefore it would have been obvious to one having ordinary skill in the art at the time the invention was made to have the switches amplifier of Adrian et al. as differential pairs switches amplifier taught by Fig. 1 of AAPA, because it is well-known and conventional (Also see Kirn US5610553 for differential arranged pairs switches).

6. Claims 2 and 5 rejected under 35 U.S.C. 103(a) as being unpatentable over Chen et al. in view of Applicant's Admitted Prior Art (AAPA).

Chen et al. as applied to claim 1 – 4 above disclose every aspect of applicant's claimed invention except for wherein the switches are arranged as differential pairs on

either side of the load. However that technique is a well-known and conventional art, as Fig. 1 Prior Art of applicant application has indicated. Therefore it would have been obvious to one having ordinary skill in the art at the time the invention was made to have the switches amplifier of Chen et al. as differential pairs switches amplifier taught by Fig. 1 of AAPA, because it is well-known and conventional (Also see Kirn US5610553 for differential arranged pairs switches).

### ***Contact Information***


Any inquiry concerning this communication or earlier communications from the examiner should be directed to Linh Van Nguyen whose telephone number is (703) 305-1934. The examiner can normally be reached from 8:30 – 5:00 Monday-Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mr. Michael Tokar can be reached at (703) 305-3493. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 308-7722 for regular communications and (703) 308-7722 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0956.

LVN

October 29, 2002

  
Michael Tokar  
Supervisory Patent Examiner  
Technology Center 2800